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— Annual Meeting ’05

Since 1966

Volume 38, Number 4  December 2004

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From the President

In the spirit of the Holidays—count your blessings, be of good cheer, and so on—if you would indulge me, I’d like to share my list of the many SCA programs and volunteers for which I’m thankful. Being President continues to be very gratifying, and I wish the best of luck to each of the candidates for the Board. Having read their position statements in this issue, I know that it will be a pleasure to serve with each.

We have a long list of successful programs for which key volunteers and members deserve credit and kudos. As a regular member, I must confess that I was aware of only about three of these programs, and had NO idea of the scale and success of others. I’m guessing that is the case for many members, and so I’d like to try to round-out your education, and bring you current. First, let me heap praise on Greg White for our quarterly Newsletter: the content is unfallingly high-caliber (Thanks, Members, Keep those articles coming), the look and feel of the Newsletter is great, timeliness of distribution is very good, and it is the envy of any state’s rival publication. Our Native American Programs Committee, avant garde for 6+ years, just received a Governor’s Preservation Award, accepted by Janet Eidsness, accompanied by Bill Mungary and Larry Myers, Chairperson and Executive Secretary, respectively, of the California Native American Heritage Commission. Our Site Stewardship Program (CASSP), led by the Padres and supported by BL M, serves as a role model for programs just now beginning to develop in other states and countries! At the recent 5th Bi-National meetings of the Instituto Nacional Antropológico e Historia, CASSP was extolled any number of times as the kind of program that Mexico’s Baja California archaeologists work to develop. Overall, the SCA/INAH cross-borders program stays healthy and active, thanks in large part to Ken Wilson.

SCAHome.org, recently proclaimed “nearly perfect” by Terry Jones, is in place and stable on the net, with updated Society News and Information, event dates, contact information, and 6½-years’ worth of past issues posted-up as pdf files. Our Proceedings have been brought current, and Sharon Waechter, D on Laylander, and Greg White keep us totally on track for timely receipt of this next one. In every week that goes by, there are several specific reasons why I am thankful for the wonderful, steady service that Melinda Pacheco and Greg White provide running our Society’s Business Office. And, as the Annual M etings draw near, I am especially appreciative of Tom Origer and others with our CAAM P, for getting us squared-away with Annual M eting venues for the next several years.

The Southern and Northern Data Sharing meetings were rewarding from both a personal and a professional standpoint. The papers were engaging (one highlight at the Southern DSM was Andy York’s unsettling image of a stone cylinder; Kirstina Crawford and Heidi Pierson were a highlight at the Southern DSM); the venues were great; and attendance was good (though we’d always like to see more of you). Many thanks to Terry Jones (Southern DSM) and Karin Anderson (Northern DSM) for organizing them and developing such appealing programs. Many thanks to Susan Alvarez and Fort H unter Liggett for hosting the Southern, and to Shasta Community College for hosting the N orthern.

The 2005 Annual M etings are being pulled together quite nicely by Glenn Gmoser (Local Arrangements) and (continued page 24)
Legislative Liaison

Stephen Bryne

SCA Legislative Liaison

The House Resources Committee voted in September to add 990 acres to the Riverside County reservation of California’s Pechanga Band of Luiseno Mission Indians. Tribal chairman Mark Macarro and federal officials said that the Bureau of Land Management property has no commercial value or development potential, and the tribe is better equipped to maintain it than the federal government. “Protecting the sanctity of these lands through conservation and resource management is of the highest priority for the tribe,” Macarro said. Pechanga is one of the state’s wealthiest tribes, with a popular casino in Temecula on reservation land that abuts the parcel in question. The anti-casino group Stand Up for California accused the tribe of seeking the land to pave the way for a second casino, but Macarro denied that. He said the tribe wanted to add the land to its existing 5,500-acre reservation to preserve more of its ancestral territory, gain greater ability to fight fires, and ensure access to drinking-water runoff from the rocky terrain in the proposed new territory. Also, according to Macaro, “There are cultural resources, rocks and rock carvings as well as rock paintings on this property, we believe cultural resources that exist nowhere else.” Rep. Darrell Issa, R-Vista, who sponsored the bill to put the land into trust for the tribe at no cost, also said he was satisfied no changes would be made to the remote area.

Legislation to restore California’s historic Spanish missions headed to the president for his signature after final passage by Congress. The House passed the California Missions Preservation Act, approving $10 million to refurbish the 21 adobe structures. President Bush is expected to sign the bill. Rep. Lois Capps (D-CA), stated that “Our state’s missions are in dire need of structural attention and major rehabilitation, without immediate repairs, centuries-old buildings and artifacts could be lost.” For example, Mission San Miguel Arcangel, near Paso Robles, was damaged by an earthquake in December 2003 and needs an estimated $26 million to $30 million in retrofitting and repairs. A group advocating separation of church and state immediately threatened to sue. Officials with Americans United for Separation of Church and State are not satisfied that the bill does not violate the First Amendment. To deal with the church-state issue, the Senate bill was amended to say that the Department of Justice will review all applications for grants to certify that they do not promote religion with public funds and that the money will only go to preserve the missions’ historic features. Most of the missions are owned by the Roman Catholic Church and Mass is celebrated in them. Democratic Sen. Barbara Boxer and other lawmakers who pushed for the bill have disputed this concern,
noting that the money is going to a non-profit group, the California Missions Foundation.

The House of Representatives passed an amendment that could lead to desecration and destruction of Native American human remains, cultural items, and sacred sites in the San Diego area. This provision would be included in the H.R. 10 – 9/11 Recommendations Implementation Act. The amendment, sponsored by Congressman Doug Ose (R-CA), allows for the continuation of construction of a security barrier in south San Diego and waives the requirements of several laws and mandates including four that specifically and directly impact Indian tribes. These laws include: the National Historic Preservation Act of 1966, the Native American Graves and Repatriation Act of 1990, the 1996 Executive Order 13007 on Sacred Sites, and the Archaeological Resources Protection Act Amendments of 1979. Waiving these requirements will preclude tribal and archaeological notice and consultation if Native American graves are inadvertently or deliberately disturbed or if human remains are disinterred.

The $388 billion 2005 U.S. spending bill, which would fund most government programs, was passed by Congress and will be sent to President Bush for his signature. This has been no indications from the White House that the president will veto this bill, which is also known as the omnibus spending bill. Some democrats, including Rep. Nancy Pelosi (D-San Francisco), have criticized the bill for loading it with “pet projects” or “pork barrel” projects that would return federal spending to individual member’s districts. Transportation projects in the Bay Area that would be funded by the spending bill include the Doyle Drive replacement in San Francisco and work on the roadway around San Francisco International Airport’s perimeter. The spending bill also includes $20 million for the Presidio Trust to transform the former army base into a national park and achieve self-sufficiency.

A bill introduced by Senator Ben Nighthorse Campbell, R-CO, would change the definition of Contact Your SCA Legislative Liaison
sbryne@garciaandassociates.com
Scientists upset over bill that would redefine “Native American.”

NAGPRA to protect remains and cultural items and objects that are not affiliated with an existing tribe or culture. Such a change could impact future issues that arise similar to the Kennewick Man dispute. The bill would likely be referred to a tribe, a people, or a culture that is, or was, indigenous to the United States. “Native American” means of, or relating to, a tribe, people, or culture that is indigenous to the United States. NAGPRA defines Native American in the following way: “Native American” means of, or relating to, a tribe, people, or culture that is indigenous to the United States. NAGPRA to protect remains and cultural items and objects that are not affiliated with an existing tribe or culture. Such a change could impact future issues that arise similar to the Kennewick Man dispute. The bill would likely be considered by voice vote during Congress’ “lame-duck” session before the newly elected congressmen take office.

References


Information Center Liaison

Lynn Compas, Committee Chair
John Thomas, CHRS Coordinator
Leigh Jordan, NWIC Coordinator

The Information Centers had their annual meeting in Bakersfield November 17-19. State Historic Preservation Officer (SHPO) M liford Wayne D onaldson and State Historic Resources Commissioner Bill Hildebrandt attended the meeting. Lucinda Woodward, Office of Historic Preservation (OHP) Local Government and Information Management Supervisor also attended.

The meetings began with a general roundtable discussion, followed by a discussion on the existing Memorandum of Agreement (MOA) between OHP, the Information Centers (ICs) and California Department of Forestry (CDF). The discussion, lead by CDF Archaeologist Linda Sandelin, revolved around revising the MOA to clear up some of the ambiguities in the existing document.

On November 18 the SHPO led a discussion regarding a pending contract between the IC’s and the National Resource Conservation Service (NRCS) for a Geographic Information System (GIS) project. Topics of discussion included the budget, scope of work, timeline forecast, and the list of deliverables for the contract.

On November 19 the SHPO led a discussion regarding the initial issues for inclusion in a cooperative agreement between OHP and the ICs. The purpose of the agreement is to clarify the relationship between the SHPO and the IC’s. This was the first formal discussion regarding this subject and it will continue after the holidays. Everyone in attendance appreciated Mr. Donaldson’s clear guidance on both the N CRS MOA and the cooperative agreement.

Last, but definitely not least, the Rules of Operation Manual for the Information Centers is up for public comment until December 10, 2004. It is on line at www.ohp.ca.gov. OHP will present the manual to the State Historic Resources Commission for adoption at the February 2005 meeting in Bakersfield. Though the Holiday Season is hectic please take the time to look this document over and give your input.

Happy Holidays!!

CAAMP Committee

Tom Origer

The Committee for Advanced Annual Meeting Planning (CAAMP) recently prepared a questionnaire designed to assist CAAMP and the Executive Board in the selection of venues for future Annual Meetings of the Society. The questionnaire was distributed at both 2004 Data-Sharing meetings, with good response. However, to reach a larger audience (the entire SCA membership), the questionnaire is printed here on pages 7-8 of this issue of the Newsletter, and is also being posted online (http://www.scahome.org).

CAAMP asks that you complete the hard copy included with the Newsletter and send it to:

Tom Origer, CAAMP Chair
P.O. Box 884
Cotati, California 94931

or

Download the MSWord version from the website, complete it, and email it to:

CAAMP@origer.com

Your participation is important in guiding CAAMP’s activities by giving you the opportunity to make your opinions and suggestions heard. We thank you for taking the time to complete the questionnaire.
Society for California Archaeology Annual Meeting Questionnaire (p. 1 of 2)

The Committee for Advanced Annual Meeting Planning (CAAMP) is dedicated to assisting the Executive Board and the SCA membership in finding and selecting appropriate and interesting venues for our annual meetings. We ask for your help. Please review this questionnaire and select the appropriate options (check, circle, or fill in blank as appropriate). Thank you for helping to plan future the annual meetings.

1) I have attended the following recent meetings:
   _____ 2004 (Riverside) _____ 2003 (Sacramento) _____ 2002 (San Diego) _____ 2001 (Modesto)

2) Do you reside in the ________ northern or ________ southern portion of the state? (Assume the dividing line is the north edge of San Luis Obispo, Kern, and San Bernardino counties.)

3) What mode of transportation do you most often use to travel to the annual meetings?
   _____ bus   _____ car/truck   _____ train   _____ airplane   ________________ other (specify)

4) If no airport, train station, or bus depot was nearby, would that cause you to not attend?
   _____ No   _____ Yes

5) _____ I prefer an annual meeting schedule that runs Friday morning to Sunday ca. noon.
   _____ I prefer an annual meeting schedule that runs Thursday morning into Saturday.
   _____ Other, please specify days of the week here ___________________________________

6) What month is preferable for the Annual Meeting _____ February _____ March _____ April
   (Traditionally, the SCA annual meeting is timed to be two or more weeks away from the SAA Annual Meeting.)

7) How important is it to you that the annual meeting city not be repeated within a 4-year period?
   not important   1   2   3   4   5   very important ↑

8) How important is it to you that the meeting hotel/conference center not be repeated within a 4-year period?
   not important   1   2   3   4   5   very important ↑
9) At what rate per room-night for lodging would you decide to NOT attend the annual meeting?

   ______ $99.00 - 109.00 ______ $110.00 - 119.00 ______ $120.00 - 129.00 ______ $130.00 or more

10) Do you usually attend the reception/silent auction? _________ no _________ yes

11) At what cost for the reception/silent auction would you decide to NOT attend?

   ______ $10.00 - 15.00 ______ $16.00 - 20.00 ______ $21.00 - 29.00 ______ $30.00 or more

12) Do you usually attend the banquet? _________ no _________ yes

13) At what cost for the banquet would you decide to NOT attend?

   ______ $30.00 - 34.00 ______ $35.00 - 39.00 ______ $40.00 - 44.00 ______ $45.00 or more

14) Have you attended one of the workshops being offered the day prior to the start of the talks?

    _________ no _________ yes

15) What topics would you prefer offered at the workshops?

    ________________________________
    ________________________________
    ________________________________

16) Comments. Please offer suggestions, advice, and constructive criticism about past and future meetings so that we can be responsive to your wants.

    ________________________________
    ________________________________
    ________________________________
    ________________________________
Board Reworks Committees and Liaisons

Over the years, committees have performed much of the SCA’s essential work. Some committees have an enduring role, like the Membership Committee or Newsletter Committee. Other committees have come and gone, like the Easements Committee or Salvage Committee. Because committee composition has evolved, each new Executive Board has faced decisions about committee composition and responsibilities. Facing its own committee decisions, the current Board consulted the Executive Board Manual and found a useful template: individual Board members are assigned committee oversight duties. However, some of the committees listed in the Manual had been disbanded, and many newly formed committees were not listed in the Manual or assigned to specific Board members.

The current Board recently tackled the issue and decided to follow the example of the SAA and other major organizations by imposing a distinction between Committees and Liaisons. Committees and Liaisons are all appointed by the Executive Board and serve at the Board’s discretion. Committees are composed of SCA members who have teamed together for promotion of SCA interests or execution of assigned tasks. Liaisons are individuals who act on behalf of the SCA in relation to other organizations and entities. Liaisons are SCA members who also hold membership in the contact organization, and are expected to report to the SCA or represent SCA interests in the contact organization.

In keeping with Executive Board Manual procedures, each Committee has been assigned a Board contact. The Board contact must communicate with the Committee Chair, convey pertinent Executive Board decisions, and report on Committee activity at Executive Board meetings. Current Committee titles, Committee Chairs and Liaisons, and Board responsibilities are listed in the chart below.

Note that the current list of Liaisons is incomplete. Liaisons are important because they help forge links to state and national heritage organizations with a shared connection to the SCA’s vital interests. Are you a member of a state or national association and want to serve as an SCA liaison? Contact us at SCAOffice@csuchico.edu.

<table>
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<tr>
<th>Committee</th>
<th>Chair</th>
<th>Board contact</th>
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<tr>
<td>Advanced Annual Meeting Planning</td>
<td>Tom Origer</td>
<td>President-Elect</td>
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<tr>
<td>Annual Meeting Planning - Program</td>
<td>Bill Hildebrandt and Kelly McGuire</td>
<td>President</td>
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<tr>
<td>Annual Meeting Planning - Local Arrangements</td>
<td>Glenn Gmoser</td>
<td>Southern Vice-President</td>
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<td>Archaeology Month</td>
<td>Laura Leach-Palm</td>
<td>Northern Vice-President</td>
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<td>Bennyhoff Fund</td>
<td>Patricia Mikkelsen</td>
<td>Past-President</td>
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<tr>
<td>California Archaeological Site Stewardship</td>
<td>Chris and Beth Padon</td>
<td>Southern Vice-President</td>
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<tr>
<td>Curation</td>
<td>Cindy Stankowski</td>
<td>Past-President</td>
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<tr>
<td>Educational/Avocational</td>
<td>Elena Nilsson</td>
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<tr>
<td>Fundraising</td>
<td>Elena Nilsson/Dana McGowan</td>
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<td>Membership</td>
<td>Vicki Beard</td>
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<td>Native American Programs</td>
<td>Janet Eidsness</td>
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<td>Newsletter</td>
<td>Greg White</td>
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<td>Proceedings</td>
<td>Sharon Waechter</td>
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<td>Professional Standards and Guidelines</td>
<td>Lynn Gamble</td>
<td>President</td>
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<td>Tom King Award</td>
<td>Russ Kalderberg</td>
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<tr>
<td>Web Site</td>
<td>Greg White</td>
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<td>Steve Mikesell</td>
<td>California Council for the Promotion of History (CCPH)</td>
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<td>Lynn Compass</td>
<td>Information Center</td>
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<td>Stephen Byrne</td>
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<td>Shelly Davis King</td>
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<td>Mike McGuir</td>
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<td>Shelly Davis King</td>
<td>State Historic Resources Commission (SHRC)</td>
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<tr>
<td>Paul Chace</td>
<td>SHPO’s Heritage Task Force</td>
<td>Northern Vice-President</td>
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See the banners on pages 4 and 5 for Committee Chair and Liaison contact information.
CASSP Training Workshops
Beth and Chris Padon

A training workshop for new site stewards was held on November 6-7, 2005. Amy Lawrence, archaeologist for the Barstow BLM Field Office, hosted the Saturday classroom session. Bob Bryson, archaeologist for the Mojave National Preserve, presented an overview of the local archaeology, and David Lee, from the Sweeney Granite Mountains Desert Research Center, spoke on rock art.

For the Sunday field trip, we traveled about 80 miles east of Barstow to visit archaeology sites at the Mojave National Preserve and the Sweeney Granite Mountains Desert Research Center with Amy and David, and with David Nichols, an NPS archaeologist. We began the tour at a site that is easily accessible to visitors. Here, we learned first-hand how important their monitoring visits can be for site protection and for adding to the new information to the record. One of the site stewards spotted the first point that has been seen at this site. We spent four hours on the tour, stopping at two sites within the Preserve and three sites within the Center. David pointed out the archaeological and historic features and spoke about the background and conditions of each site. David told us about special concerns for rock art because of its fragile nature. The field trip ended with a very special treat—a great BBQ dinner at the Center with the rest of the staff.

Amy will supervise the new volunteers who work on BLM lands in this area, and Bob and David will supervise the new volunteers at the Preserve and the Center, respectively.

More training workshops for new volunteers will be offered in 2005; the locations and dates will be posted on the CASSP website at <www.cassp.org> and printed in the CASSP newsletter as they become available. Each workshop consists of a classroom session on the first day and a field trip on the second. Training materials and lunch are provided for the class session, snacks and drinks for the field trip. Participants must sign a confidentiality form before going on the field trip. They also complete volunteer forms for CASSP and for the agency they are working with. Minors can participate, if accompanied by a parent or guardian. The workshop costs $25 per person, payable to the Society for California Archaeology (SCA). Registration is required; provide your name and contact information to Beth Padon or Chris Padon by phone (562) 432-1801, fax (562) 432-1811, or email bpadon@discoveryworks.com. All CASSP volunteers who are not already members of the SCA receive a first year membership at no additional cost. CASSP volunteers also are eligible to attend the advanced workshops.

An advanced workshop in lab techniques for historical artifacts will be held for CASSP volunteers on January 22-23, 2005, at The Presidio of San Francisco. It is very exciting to return to The Presidio for the third year in a row, and we thank Sannie.
Osborn, who directs activities at the Archaeology Lab, for inviting us back. CASSP volunteers who attend will be able to do water screening, artifact sorting and cataloging, photography, and data entry. We anticipate that we will be able to stay at The Presidio again. There is no fee to attend, but registration is required. Space is limited for this popular event, so please register early, and no later than January 17, 2005. An advanced workshop in field survey techniques and site recordation will be offered for CASSP volunteers on February 12, 2005, in Ridgecrest. This workshop will start at 9:00 am with a class at the Maturango Museum (at East Las Flores Road and China Lake Blvd.). In the afternoon, we will move into the field where we will conduct a walkover of an historical site and record observations in order to update the site record. There has been a great deal of interest in a site survey workshop, and we expect that available space quickly will be taken, so please register early. (If there is enough interest, the site survey workshop may be offered again in another part of the state.) Advanced workshops are available only to those who already participated in the initial training workshop. There is no fee, but registration is required, by contacting Beth Padon or Chris Padon by phone (562) 432-1801, fax (562) 432-1811, or email bpadon@discoveryworks.com.

The CASSP web site at www.cassp.org contains the latest schedule information about initial training workshops, advanced workshops, and volunteer work opportunities.
2004 Northern Data-Sharing Wrap

Karin Anderson, Northern Vice-President

The 2005 Northern California Data-Sharing Meeting was held on November 6, at Shasta College in Redding. Approximately 100 attended and 14 gave very professional presentations. The pizza party was a lot of fun, and it too was well attended.

Topically the day's presentations ranged from an examination of historic ceramics from a downtown Redding neighborhood, to a spectacular field school excavation in Del Norte County, a high-tech archeological site sensitivity model, and a thought provoking piece on the spread of Filaree into northeastern California. A stimulated discussion resulted from a presentation on small lithic scatter sites on the Modoc National Forest suggesting that strict application of California Archeological Resource Identification and Data Acquisition Program (CARIDAP), and its limited methodology, may result in loss of valuable archeological information. The author encouraged the audience to look for the significance of these types of sites in a broader archeological and theoretical context. And he admits to having made a 180 degree turn from his earlier years of archeological site management.

Overall though, I believe that it was the presentation from Tahoe National Forest Archeologists Kristina Crawford and Heidi Pierson on Basque tree carvings that had the audience's most rapt attention. Who said archeology isn't sexy? And just so you know, next year at the Presidio I'll be assigning PG-13 or R ratings as needed.

While everyone’s data share is not mentioned here, each contributed to the day. The intent of the meeting was fulfilled and a good time was had by all.

Special thank you’s for this year’s meeting go out to Phyllis Eisentraut, Dotty Smith, and all of the student volunteers from Shasta College who provided logistical support. The facility was perfect. Thanks too to Trudy Vaughan and Steve Grantham for lending a hand, to Upper Crust Pizza in Redding for being extremely accommodating hosts and providing a great after-meeting venue, to Turtle Bay Exploration Park and Julia Pennington for discounted entry and special tour of the park for SCA members the day following the meeting, and finally thank you to all of this year’s presenters.

2004 Southern Data-Sharing Wrap

Terry Jones, Southern Vice-President

More than 100 members convened at Fort Hunter-Liggett in Monterey County for the southern data sharing on September 11. For many of the attendees, the meeting site represented a significant trek, but most seemed to agree that the historic venue and full, diverse program made the trip worthwhile. The meeting began at 9:00 with an opening prayer by local Salinan representatives, Greg Castro and Jose F reeman, followed, in turn, by SCA president, Amy Gilreath, who announced that annual meetings have now been scheduled through at least 2007 (see SCAhome.org for details). This unprecedented accomplishment is due largely to the efforts of Tom Origer and CAAMP (Committee for...
The noon hour brought one of the day’s first highlights, a sumptuous BBQ put on by local Salinan, John and Doug Alger, at Mission San Antonio. Many of those who had walked from the Hacienda to the Mission for lunch were thankful that vans were available for the return trip.

The afternoon program shifted to localities away from the central coast, beginning first with a discussion of findings from the Granddad site in the southern Sierra foothills, where Drs. John Pryor and Roger Lajeneusse (CSU Fresno) have initiated a long-term, field school research project. The site, ranging in depth from approximately 20-130 cm, has produced substantial tool assemblages representing virtually the entire Holocene. Tom Burge from Sequoia-Kings Canyon National Parks then gave an excellent slide presentation on results from recent high-elevations surveys.

Among the other highlights of the afternoon were two presentations on research projects in Baja California — one by Mark Raab from CSU Northridge and the other by Matt Des Lauriers from UC Riverside. Dr. Raab described initial results from the Piedra Pintada project in the central Sierra of the southern Cape region. The project is being developed jointly with Mexican archaeologists, and while most previous research in Baja has concentrated on the coastline, this long-term study will focus on a rich record of rock art, midden deposits, and shelters in an upland valley 20 km inland from both the Sea of Cortez and the Pacific Ocean. So far, Raab has managed to establish an excellent physical and logistical infrastructure in this remote region and has completed initial testing. Matt Des Lauriers described fascinating results from several seasons of survey and testing on Cedros Island, 18 km off the Pacific Coast in central Baja, about 400 miles south of the US border. Findings from this remote island show an exceptionally rich record including one site with no fewer than 400 house depressions, and others with dense stratified deposits rich in faunal materials and tools.

Local Salinan Greg Castro, Jose F reeman and Robert D uckworth delivered a presentation in which they challenged the findings from a recent Caltrans study that defined central coast tribelet names and locations based primarily on Mission records. T he Salinan argued for

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Among the other highlights of the afternoon were two presentations on research projects in Baja California — one by Mark Raab from CSU Northridge and the other by Matt Des Lauriers from UC Riverside. Dr. Raab described initial results from the Piedra Pintada project in the central Sierra of the southern Cape region. The project is being developed jointly with Mexican archaeologists, and while most previous research in Baja has concentrated on the coastline, this long-term study will focus on a rich record of rock art, midden deposits, and shelters in an upland valley 20 km inland from both the Sea of Cortez and the Pacific Ocean. So far, Raab has managed to establish an excellent physical and logistical infrastructure in this remote region and has completed initial testing. Matt Des Lauriers described fascinating results from several seasons of survey and testing on Cedros Island, 18 km off the Pacific Coast in central Baja, about 400 miles south of the US border. Findings from this remote island show an exceptionally rich record including one site with no fewer than 400 house depressions, and others with dense stratified deposits rich in faunal materials and tools.

Local Salinan Greg Castro, Jose Freeman and Robert Duckworth delivered a presentation in which they challenged the findings from a recent Caltrans study that defined central coast tribelet names and locations based primarily on Mission records. The Salinan argued for
The last presentation of the day by David Ferraro (Viejo California Associates) was one of the more controversial. Ferraro presented findings from the Tálega Site (ORA-907) in Orange County where an extensive monitoring/data recovery project produced an impressive set of findings from deeply stratified deposits. These included several apparent house features dating ca. 9000 Cal. B.P., milling tools, and other artifacts representing an Encinitas Tradition occupation that began ca. 10,500 cal. B.P. Mechanical borings into alluvial deposits beneath the Encinitas component yielded dates of ca. 15,000 BP with possible associated cultural debris (stone debitage). Ferraro believes the deeply buried materials may reflect a coastal migration by pre-Millingstone peoples (possibly San Dieguito) as early as 16,000 BP. The shallower, more substantive Encinitas occupation confirms a terminal Pleistocene age for the beginning of the Millingstone period as recently argued on the basis of findings from the Cross Creek site in south central California.

The day concluded with a tour of Mission San Antonio by Dr. Robert Hoover (Emeritus, Cal Poly San Luis Obispo) who discussed his findings from nearly three decades of field school research at this important historic site.

Special thanks are offered to Susan Alvarez (co-organizer), Clinton Blount, Brian Codding, Jennifer Farquhar, David Farquhar, Hanna Hickok, Kari Sprengeler, Bill Stillman, Laura Leach-Palm, and Dave Makar for their assistance in setting up the meetings. Additional thanks to Doug Alger, John Alger, Greg Castro, and the other Salinan representatives for putting on a great BBQ, and to Robert Hoover for an informative tour of the mission. Special recognition is also due to Parker and Associates, Albion Environmental, Garcia and Associates, and LSA for donations to help support the meeting.
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Paul Koch (U.C. Santa Cruz) is the Saturday night banquet speaker. He will address the extinction of Pleistocene megafauna in North America using a global perspective. This is a must-see presentation for those wishing to shed their provincial shackles and better understand California prehistory within the larger, worldwide context.

Events

The Silent Auction/Reception on Friday night will be held in the grand ballroom of the Masonic Temple, a National Register gem just two blocks from the Hyatt. Planning is ongoing. Attendees can expect a memorable event, so plan to attend.

Volunteers are still needed for both planning and assistance during the meetings. This year’s volunteer czar is Darrell Cardiff (darrell_cardiff@dot.ca.gov). Auction item donations are being coordinated by auction czar John Sharp (john_sharp@dot.ca.gov). Entrepreneurs should contact this year’s bookroom czar Lynn Compass (LOC3@pge.com).

Meeting organizers are also requesting sponsorships from individuals, firms, and agencies to provide funding for Annual Meeting Update

Kelly McGuire and Bill Hildebrandt, Program Chairs
Glenn Gmoser, Local Arrangements Chair

The SCA 2005 Annual Meeting will be held at the Hyatt Regency adjacent to the Capitol Building in downtown Sacramento. People arriving via the Sacramento Airport should be able to reach the hotel using a shuttle service. Mass transit (YoloBus) from the airport to downtown is also available. The meetings will run from Thursday through Sunday 4/21-4/24, and the Hyatt is currently accepting reservations. We have reserved a large block of rooms at the Sacramento Hyatt Regency, with single and double occupancy rooms at $99. The deadline for reservations at the conference rate is March 25, 2005. Sign up early to ensure your place. Call 1-800-233-1234 and identify yourself as an SCA conference attendee.

The Program

Scott Stine (Cal State Hayward) has agreed to give a Thursday night public lecture on prehistoric climate change in California. His presentation is open to the public at no charge and should be of interest to a wide range of audiences. SCA members living in the Sacramento region should get the word out to local environmental, historical, and archaeological societies, as well as nearby schools to boost the attendance for this important event. We will also be running press releases in the local newspapers.

The Friday morning plenary session is entitled “Native American Influences on the Structure and Composition of Prehistoric Ecosystems.” Charles Kay (Utah State University) and William Hildebrandt (Far Western) will be the first two speakers and discuss the effects of prehistoric hunting practices on terrestrial and marine mammal populations. Kat Anderson (U.C. Davis) will then focus on Native American management practices of plant resources, followed by Frank Lake (Karuk tribal member) who will review Native perspectives on ecosystem management. Dr. Anderson will also have a signing for her new book Tending the Wild: Indigenous Management of California’s Natural Resources and Bio-Diversity. Soon to be published by U.C. Press, this will be required reading by all those concerned with prehistoric archaeology and modern approaches to land management in California.

Call for Donations for the Silent Auction at the 2005 Meeting

The Silent Auction at the Beer and Wine Tasting Event at the SCA’s yearly meeting has become one of the Society’s biggest fundraisers—and the success of this event depends on YOU—the members of the Society. For the average member, the auction is a fun and painless way to make a contribution to the Society. For businesses, the auction represents a unique and high-value opportunity to market your products or services to the regional CRM and archaeology communities. Beginning immediately, donations are needed for the April 2005 SCA Meeting in Sacramento. Donations have become more diverse over the years, and besides including traditional archaeology-related items like books, reports, services, and field and lab equipment, have come to include art, textiles, food and wine, gift certificates for restaurants and catered events, etc. Donations from local businesses in your area are especially valued. In short, you are encouraged to donate anything that you think will help the SCA raise money! As a non-profit organization, donations to the auction are TAX DEDUCTIBLE – with the deduction value of the item estimated by the donor. Donations should be mailed to Auction Coordinator John Sharp, c/o CalTrans Environmental, Mailstop 27, 1120 N St., Sacramento, CA 95814 (alternate arrangements can be made for exceptionally large or heavy items). All items should be mailed by March 25, 2005. For more information, contact John at (916) 227-4688, or at john_sharp@dot.ca.gov.
Students are encouraged to submit entries for the Student Paper Award. A panel of SCA board members will judge the papers, and the winner will receive $250 in cash, a banquet ticket, and an SCA certificate. We are soliciting sponsorship to expand the awards to other notable student papers as well. The deadline for student paper entries is February 1, 2005. Paper should be submitted to the SCA Business Office, along with a cover letter from your advisor indicating that you are enrolled in a degree program with a focus on California anthropology.

**Meeting and Hotel Registration**

Pre-registration packets will be sent out via e-mail or regular mail by early February, and will be due before March 25th. Please make sure your e-mail address is correct, or if the Business Office (SCA Office@csuchico.edu) does not have your e-mail address, please submit it to them soon to make sure you get a packet. Watch for the meeting announcement and plan to attend the 2005 Annual Meeting in Sacramento!

**Attention: All SCA Members**

the James A. Bennyhoff Memorial Fund is Open to Everyone in the SCA

ARE YOU DOING RESEARCH that focuses on the development, significant refinement, and/or modification of time-sensitive artifact typologies, or studies which relate primary data to the enhancement, revision or replacement of existing cultural-historical taxonomic frameworks?

THEN you should be preparing your application for submittal, prior to the February 15, 2005 deadline, to receive FREE obsidian hydration and source analyses, plus four FREE radiocarbon dates, plus UP TO $1,000 (ONE THOUSAND DOLLARS) IN CASH.

SIMPLY send a summary of your research, a budget, a timeline, and your resume to:

Chair, Bennyhoff Memorial Fund Award Committee 2727 Del Rio Place, Suite A Davis, California 95616 Or e-mail pat@farwestern.com

**In Sympathy**

The SCA extends sympathy to Past-President and M. R. Harrington Award recipient. Chester King for the loss of his wife, Joena, in an automobile accident on October 22. We are greatly relieved to hear that her 7-year old daughter Zoe is on the mend from the serious injuries that she sustained. Those wishing to provide support may be interested to know that a fund has been set up for the daycare and child-related support for Zoe, and for Cree and Jaya, Chester and Joena’s three-year old twin daughters. Donations may be sent to Wells Fargo Bank, c/o Jennifer Wright, 23701 Calabasas Rd., Calabasas CA 91302. Checks should be addressed to Chester King and reference account # 7344289876.

Visit www.SCAHome.org for Annual Meeting information and paper abstract, poster session, and symposium forms.
ATTENTION!
RESEARCH SUPPORT AVAILABLE

Apply for the
James A. Bennyhoff Memorial Fund Award
for the year 2005

This award, sponsored by the Society for California Archaeology, is now open
to all SCA members to support original research on California and Great Basin
prehistory.

Consideration will be given to the following types of research:

- Studies which focus on the development, significant refinement, and/or
  modification of time-sensitive artifact typologies.

- Studies which refine, revise, replace, or explain current cultural-historical
taxonomic frameworks that model change in prehistory.

The Fund offers the following types of support to the award winner, as needed:

- Up to $1,000 cash
- 50 free obsidian source identifications donated by Richard Hughes
- 100 free obsidian hydration readings donated by Thomas Origer
- Up to 4 AMS dates donated by the CAMS facility at Lawrence Livermore
  National Laboratory

Award funds may be used for any purpose directly related to a study or its publication: e.g.,
travel for collection study, photography, illustrations, graphics or radiocarbon or other analyses.

A final report (publication or monograph) is required and must be submitted to the
committee within one year of the award.

BENNYHOFF AWARD APPLICATIONS DUE FEBRUARY 15, 2005

Required materials include: (1) a concise statement of your research problem; (2) a simple budget
request; (3) a general time-line for completion of the study; (4) an attached resume; and
(5) students should submit a letter of support from a faculty advisor.

Send all materials and direct questions to:
Pat Mikkelsen
Chair, Bennyhoff Memorial Fund Award Committee
2727 Del Rio Place, Suite A
Davis, California 95616
or e-mail pat@farwestern.com
Jim West has retired from his Archaeologist position at the Bureau of Reclamation in Sacramento. It is our understanding that he does a lot of sailing on the Bay these days. Pat Welch has assumed Jim’s old duties at the Bureau. Prior to coming to work for the Bureau of Reclamation, Pat had spent many years working for BLM in their El Centro Field Office.

There are several personnel changes at Caltrans to report, with the Oakland District office (District 4) being particularly busy with staff moves. Rick Fitzgerald has left his position in Oakland Caltrans to begin serving as an archaeologist with California State Parks, Sacramento, in their Cultural Resources Division office. Most recently, Rick had been on temporary assignment at OHP. Roy Pettus left California State Parks in San Diego to work in Oakland Caltrans. Also, Todd Jaffke recently transferred from the Caltrans District office in Redding down to Oakland. Jennifer Parker left California State Parks, San Diego to work as an Associate Environmental Planner in LA Caltrans (District 7); Jennifer had worked with State Parks throughout southern California for several years. Steve Hammond retired from his position at Caltrans San Bernardino after 30 years of State service. Dr. Karen Swope will now serve as the District 8 Heritage Resource Coordinator and Native American Coordinator. Tim Keefe recently transferred from Caltrans Stockton up to their District 1 office in Eureka. (Thanks to our “mole” in Caltrans, Rich Olson, for many of these news items.)

Judith Reed, most recently Archaeologist at the BLM Ridgecrest Field office, has accepted a promotion to the BLM Wyoming State Office. Judith will serve as Liaison to the State Office of Historic Preservation. Luz Ramirez left the BLM Ridgecrest Field Office to work as Archaeologist at Fort Irwin.

Brian Byrd has resigned his position as Senior Archaeologist at ASM Affiliates, of Carlsbad, CA and taken a job at Far Western Anthropological Research Group in Davis. Seetha Reedy has also resigned her position at ASM Affiliates. It is our understanding that Dr. Reedy hopes to open a consultant business in northern California.

Susan Hector and Michael Sampson, both former presidents of the SCA, got married on October 3, 2004 at historic Rancho Guajome in San Luis Rey, CA. Dayle Cheever served as Maid of Honor and Gerrit Fenenga served as Best Man in the small wedding ceremony. Since we archaeologists like to engage in discussions of arcane and boring things and gossip about our colleagues, it makes excellent sense for two archaeologists to marry each other. For reasons unclear to the happy couple, this wedding did not make it into the “Society” column of the San Diego Union-Tribune.

Web Sites of Interest

Mission Dolores digital mural project

International Association of Assessing Officers
http://www.iaao.org/1234.html

e-Cultural Resources
www.eCulturalResources.com

NPS Discover Archaeology series
http://www.cr.nps.gov/aad/PUBLIC/discover.htm

SCA vs. County of Butte
http://ceres.ca.gov/ceqa/cases/1977/butte_county_011177.html

Ancient Human Occupation of Britain (AHOB)
http://www.nhm.ac.uk/hosted_sites/ahob/index.html

Proceedings of the National Academy of Sciences
http://www.pnas.org/
Out of the Pits:
Guest Editorials on Problems and Prospects in Professional Archaeology—in California and Beyond

XPIs: More than Just a Passing Phase

Don Laylander
ASM Affiliates, Inc.

Mark Q. Sutton’s (2004a) criticism of Extended Phase I (XPI) testing raises some interesting questions that merit a closer look.

Sutton hopes to sound the tocsin “before the XPI becomes an entrenched procedure.” In actuality, XPIs have already been in use by Caltrans for more than 20 years, and I think their use has generally been appropriate and successful.

According to Caltrans’ protocol, XPIs are not used to evaluate sites. They’re used to find out whether or not there’s any substantial subsurface cultural deposit within an area that’s going to be affected by a highway project. If a deposit is present, Phase II testing is required to evaluate it. XPI testing is used in two situations. One is to test areas lying outside of the surface boundaries of a site but still close enough to raise a suspicion that a subsurface deposit might be present. The other is to test within the known boundaries of a site that contains only meager surface evidence (for instance, a couple of milling slicks or a few flakes), to see whether any substantial subsurface deposit is associated.

The kicker may be the word “substantial.” How uncertain or sparse can a cultural deposit be and still warrant a full-blown program of unit testing and evaluation? If one shovel test pit (ST P) finds no deposit, maybe 10 ST Ps will find one. If 10 ST Ps are negative, maybe 10 1x1 meter units will be positive. If 10 1x1s are still negative, maybe 100 1x1s won’t be...and so on. Obviously there’s a tradeoff between the certainty we get in answering an archaeological question and reasonableness in the time, money, professional effort, and disturbance we expend in getting the answer. A threshold has to be recognized, explicitly or implicitly, and a line has to be drawn somewhere.

Sutton at least implicitly draws such a line. He doesn’t scatter excavation units randomly throughout non-site areas. He also says that “few archaeologists would recommend testing for every single site encountered in a survey, and some judgment is employed in recommending which sites should be tested.” Apparently the main difference between Sutton’s approach and Caltrans’ is that the former excludes some sites from Phase II testing based on surface observations alone, while the latter requires at least a minimal amount of testing to determine whether a subsurface deposit is present before excluding a site.

Sutton’s objection to XPIs may come down primarily to his dislike of ST Ps (Sutton 2004b), against “real excavation” (i.e., 1x1 meter units). He says that ST Ps are relatively poor for delineating stratigraphy — granted. He says they’re poor for assessing deposit integrity — granted. He says that they’re poor for discovering subsurface features — I think this is debatable, with the drawbacks of poor visibility within ST Ps being set off against the poor area coverage of an equivalent amount of unit excavation, but certainly ST Ps are poorly suited to interpret subsurface features. The point is that those are Phase II goals, not XPI goals. For the XPI goal of determining the presence or absence of a cultural deposit, ST Ps can work admirably.

(Incidentally, in his earlier editorial, Sutton suggested that the chance of a 0.1 m³ ST P finding anything within a deposit containing 10 artifacts/m³ was less than 20%, and within a deposit of 100 artifacts/m³ it was still only about 70%. By my calculation, assuming that the artifacts are randomly distributed, the probabilities of finding at least one artifact should be 65.13% (1 - 0.910) and 99.997% (1 - 0.9100) respectively.)

While defending XPI testing as strictly implemented, I have to admit that there’s a disturbing potential for XPI “mission creep,” or the phase fuzziness that concerns Sutton. There’s an administrative temptation to expand the scope of XPI programs from simple presence/absence determinations in order to address broader testing goals. Sometimes this takes the form of using limited unit excavation to get a more intensive preview of an identified cultural deposit, in order to assist in planning the subsequent Phase II evaluation program. This may be a relatively innocuous practice, although it does involve doing what’s really Phase II level testing without the constraints of an explicit research design.

There’s also a risk that an agency might construe results from XPI testing that are positive but not very impressive as a sufficient basis for a negative evaluation of the site. I think Sutton is right to deplore this. But the possibility that XPI results could be misused isn’t sufficient reason to discard a legitimate and valuable testing procedure.

References
Sutton, Mark Q.
Position Statements: for President

Stan Berryman, Cultural Resources Program Manager, MCB Camp Pendleton

Background: I have worked in Cultural Resources Management for over 30 years managing projects throughout the western United States as well as Nebraska, Maryland, and Florida. My experience involves not just the archaeological portion of CRM but also the business end. My business experience includes: owning and operating a small consulting firm; Western Regional Operations Manager for Advanced Sciences, Inc in San Diego; and Environmental Studies Manager for WESTEC, Inc. in Reno, Nevada. I have been a member and President of the Board of Directors of the non-profit Human Systems Research, Las Cruces, New Mexico, and the San Diego County Archaeological Society.

Since 1996 I have been the head of the Cultural Resources Management Program at MCB Camp Pendleton. My goal for the program at Camp Pendleton has been to successfully integrate high quality archaeological research with compliance management that supports the mission of the Base and conserves remaining examples of coastal archaeology in Southern California.

The program has been awarded: Secretary of the Navy, Individual Cultural Resource Management Award Marine Corps 1999; Secretary of the Navy, Program Cultural Resource Management Award Marine Corps Large Installation 1999 and 2000; and Secretary of Defense Environmental Security Award/Cultural Resource Honorable Mention 1999 and 2000.

Position Statement: Since 1967 I have seen the SCA change from a small bootstrap organization to a robust professional society that represents the interests of the archaeological community. It is an organization that accommodates and encourages a range of diversity within its membership. Looking at the presentations from last year’s meetings in Riverside shows the breadth of organization interest in historic and prehistoric sites, new analytical techniques, ethnohistory, and American Indian concerns. The Newsletter and new e-zine format are excellent and will provide articles of interest to all the members.

I want to see the SCA continue as a strong, stable organization that is home to the wide range of individuals. At the same time we need to be the voice for cultural resources throughout the State of California. I would like to see the SCA press for better and consistent curation of artifacts and records from both current and past excavations. The SCA needs to continue with its strong avocational program and we must continue to have a dynamic Native American program. As President of the SCA I will work hard to see that the organization continues to grow and represent the interests of its membership while remaining dynamic and current.

Frank Bayham, Department of Anthropology, California State University, Chico

Background: Frank Bayham received his BS in Biology from Arizona State University (ASU) in 1974, and then moved on to Anthropology and received his MA from the University of Arizona in 1976 and his Ph.D. from ASU in 1982. His primary research interests involve evolutionary ecology, zooarchaeology, long-term foraging adaptations, and western North American prehistory. He has been a member of the faculty in the Department of Anthropology at California State University, Chico (CSUC) since 1985, and served as Chair of the Department of Anthropology from 1997-2003. Over the course of his professional career, he served as Director of the CSUC Archaeological Research Program (1988-1996) and has been involved in numerous CRM projects as a consultant and a Principal Investigator; he has been the Director of the Zooarchaeology Laboratory (1988-present) and served on many MA and departmental committees; and he served as Coordinator (sometimes Interim) of the Northeast Information Center of CHRIS from 1998-2003. He is presently a member of the BLM Resource Advisory Council for NE California. And lastly, he was the Northern Vice-President of the SCA in the early 1990’s.

Position Statement: As President of the Society for California Archaeology, I would first and foremost be committed to continuing and developing the established programs which have strengthened this organization and promoted archaeology in California. Three specific areas I would like to focus on include: increasing awareness and practice of existing SCA ethical guidelines and performance standards throughout the state; stronger support for the essential roles performed by the Information Centers of CHRIS; and increasing and
Position Statements: for Southern Vice-President

**Bob Bryson**, Park Archaeologist/Cultural Resources Lead, National Park Service, Mojave National Preserve, Barstow


Professional Background: I have been here at Mojave for the past three years and have become very involved in regional programs within the National Park Service (Pacific West Region Cultural Resources Advisory Committee and Intermountain Region Vanishing Treasures Program Advisory Group) and in the interagency cooperative efforts of the California Desert Managers Group (as co-chair of the Paleontological and Cultural Resources Advisory Team or PACRAT). Prior to returning to California, I spent four years working on the development of a new method of paleoclimatic modeling with clear applications in archaeology while at the Center for Climatic Research of the University of Wisconsin. My contracting experience includes stints with Far Western Anthropological Research Group, Davis, and Infotec Research, Eugene.

Position Statement: The most visible responsibility of the vice-presidents is to organize the two data sharing meetings, which serve valuable functions in disseminating information at the regional level and creating venues for networking. The approach towards organizing these events that has been established by the previous vice-presidents has been quite effective and should be continued with little adjustment.

Importantly, the vice-presidents also serve on the SCA Board and thus contribute to the overall direction of the Society. Through my involvement with the Desert Managers Group I have been part of the team working with the California SHPO on the development of a new version of the Mojave Desert Historic Resources GIS that will serve as the prototype for the future state-wide CHRIS. Because I have interacted with so many different agencies, contractors, and academic groups across the Mojave and elsewhere in the state, I feel that I can adequately reflect their diversity while also helping the SCA Board continue to find the common ground that keeps us all together. I have the energy to do that and would like the opportunity to represent the many archaeological interests here in southern California.

**Andrew L. York**, Senior Cultural Resource Specialist, EDAW Inc., San Diego, CA

Education: M.A. Cultural Resource Management, Sonoma State University, 1983; B.A. Cultural Anthropology, University of California Santa Barbara, 1979

Professional Background: Senior Archaeologist and Cultural Resources Specialist, EDAW Inc. (1996-present); Project Archaeologist, Dames & Moore (1986-1996). Member, Register of Professional Archaeologists, certified in field research.

Position Statement: Since joining the SCA some 20 years ago, I have seen it mature into a powerful and highly effective voice for California’s cultural heritage. While much of SCA’s success is certainly due to effective stewardship by past (and present) Executive Boards, I believe the Society’s greatest asset is an active and engaged membership. Through their energy and commitment, SCA members have not only greatly increased public awareness of archaeology, but have contributed to the increasing prominence of California research on the national stage. As the Southern Vice-President and member of the Board, I will work to channel this energy through the southern data-sharing meetings, contribution to the SCA web site, and public outreach activities in southern California.

Position Statement: for Treasurer

**Ted Jones, Tom Origer & Associates**

Education: M.A. Cultural Resources Management, Sonoma State University 2001; M.A. History, CSU Hayward 1992; B.S. Information Systems Management, University of San Francisco 1987

Position Statement: The SCA has grown to a point where we provide several large programs with considerable financial support derived from grants, investments, and private contributions from the membership. Tracking and accounting for these funds is becoming increasingly complex. I have a strong background in financial management from my “first career” with Pacific Telesis, where one of my duties was project accounting and budget management. I am confident that I can provide the Society with the needed skills, and I look forward to serving.
Meetings

SCA at INAH Symposium

SCA participation was yet again warmly welcomed at INAH’s 5th Bi-national Symposium held in Rosarito Beach, Baja California, November 13-14. SCA President Amy Gilreath was included in the opening ceremony, as appreciative recognition of the SCA as a symposium sponsor. The meetings included consecutive sessions on prehistory, history, and contemporary Baja and Alta California Indian projects. SCA archaeologists Eric Ritter, Matthew Des Lauriers, Jerry Moore, and Don Laylander were among those presenting in the first session. Ken Wilson reviewed the “Following the Smoke” program in the closing session. Familiar SCA faces in the crowd of around 100, beyond those shown here, were several San Diego State grad students, Pat Ritter, and Carol Wilson. Past-President Elena Nilsson and President-Elect Shelly Davis-King also attended, showing a commitment to regular involvement.

The California Bureau of Land Management and the SCA have a strong partnership aimed at nurturing trans-border sharing of archaeological and historical research interests. In a reciprocal gesture, Baja Mexico archaeologists were invited to participate in our Spring 2005 meetings in Sacramento. Look for a trans-border session on the forthcoming program.

Third International Conference on New Directions in the Humanities
Cambridge University, United Kingdom, 2-5 August 2005

The conference will continue in its endeavours over recent years to develop an interdisciplinary agenda for the humanities.

Included as part of the conference program will be major keynote presentations by internationally renowned speakers and numerous small-group workshop and paper presentation sessions. Participants are also welcome to submit presentation proposals, either as 30 minute papers, 60 minute workshops or jointly presented 90 minute colloquium sessions. Presenters may choose to submit written papers for publication before or after the conference in the fully refereed International Journal of the Humanities, published in print and electronic formats. If you are unable to attend the conference in person, virtual registrations are also available which allow you to submit a paper for refereeing and possible publication in this fully refereed academic journal, as well as access to the electronic version of the conference proceedings. The deadline for the first round call for papers is 15 October 2004. Proposals are usually reviewed within four weeks of submission.

Full details of the conference, including an online call for papers form, are to be found on the conference website, at http://www.HumanitiesConference.com.

We do hope you will be able to join us in Cambridge in August 2005.

Prof. Juliet Mitchell
Department in Social and Political Sciences
University of Cambridge, UK.

Prof. Tom Nairn
The Globalism Institute,
RMIT University, Melbourne, Australia

SCA at the 5th Bi-national INAH Symposium on Baja California.
From left to right (lower), Eric Ritter, Andy Pigniolo, Glenn Russell, Lynn Gamble, Matt Des Lauriers, Amy Gilreath, Roy Pettus, Shelly Davis-King, and Ken Wilson; (upper deck) Elena Nilsson, Don Laylander, and party extras.
Symposium on Kent Lightfoot’s New Book

SCA member Kent Lightfoot has just published “Indians, Missionaries, and Merchants: The Legacy of Colonial Encounters on the California Frontiers” from the University of California Press. The California Mission Studies Association, along with the Academy of American Franciscan History and the Bancroft Library, will be sponsoring a symposium on this book on Saturday, March 12, 2005, in the reading room of the Bancroft Library at 10 am. Participants in the symposium will include Julia Costello of Foothill Resources; Malcolm Margolin author and publisher of Heyday Books, Berkeley; Otis Parrish of the Phoebe A. Hearst Museum of Anthropology and a member of the Kashaya Band of Pomo Indians; John Johnson, curator of Anthropology at the Santa Barbara Museum of Natural History, and Keith Warner, O.F.M., Lecturer in Environmental Studies at Santa Clara University.

US/ICOMOS Membership Appeal

The International Council on Museums and Sites (ICOMOS) is the only truly global membership organization that brings together all the trades, disciplines, professions and support/advocacy groups that work together to preserve the cultural heritage of the entire planet for the betterment of all who live in the world today as well as for generations yet to come.

Not only does membership in ICOMOS keep you informed of the latest trends and experiences in heritage conservation, it enables you to be an active participant in shaping international cultural cooperation and policy. You can learn more about ICOMOS at our website: www.icomos.org

For those who support or are actively engaged in heritage conservation in the United States, and think that international cultural cooperation is important in today’s world, you have a choice of several US/ICOMOS membership categories to chose from: $75 National Affiliate, includes the US/ICOMOS Newsletter, the Annual Journal, discounted registration in the Annual Symposium and membership in the US/ICOMOS Specialized Committee of your choice (Training, Historic Towns, Cultural Landscapes, Earthen Architecture, Preservation Law, Vernacular Architecture, Archaeological Heritage Management, Cultural Tourism, Brick Masonry, and Wood).

$125 International Member. Includes all of the Above, plus international membership in ICOMOS, carrying with it the publication of ICOMOS News/Notes, the ICOMOS Card (free complimentary entry to many cultural sites and museums in Europe), affiliate membership in the International Scientific Committees of ICOMOS, and other benefits.

$375 Institutional Membership is open to universities, institutions, local and national preservation organizations and private firms. Includes all the International Membership privileges described above for the four members of your staff, faculty or Board designated by you; plus an additional discount in registration at the Annual International Symposium.

$30 Students. Same as National Affiliates. Student ID and proof of current full-time enrollment in an educational institution in the US or abroad is required.

You may download the Membership Application in our website: http://www.icomos.org/usicomos/Membership.htm. US/ICOMOS and ICOMOS need your support and your talent. Thanks for considering joining ICOMOS! Save these Important Dates:

1721 October, 2005. The 15th ICOMOS General Assembly and International Symposium, Xi’an, China. “Monuments and Sites in their Setting: Conserving Cultural Heritage in Changing Townscapes and Landscapes”

5-8 May, 2005. The 8th US/ICOMOS International Symposium, Charleston, South Carolina. HERITAGE INTERPRETATION: Expressing Heritage Sites Values to Foster Conservation, Promote Community Development and Educate the Public.

Marshalltown Company Announces Student Award Program

Marshalltown Company would like to announce several new programs for schools teaching archaeological field methods and skills. As instructors, it is important to motivate students to do their very best. With the “Student Award Program” instructors can recognize an outstanding field school student at the undergraduate or graduate level. Marshalltown will then send, for that student, a certificate of merit, pointing trowel with holster, and a Marshalltown cap at no cost to the instructor, student, or school. The “Tools for Schools Program” allows field school instructors to purchase Marshalltown tools from local vendors and earn matching credits for additional Marshalltown products up to $400 per school per calendar year.

If you are unable to find Marshalltown tools in your area they may be purchased directly from Marshalltown with the Direct Order Program. Tools are priced favorably for limited budgets; orders within the continental US ship free of charge. If you are interested in more information about Marshalltown Company or the programs listed above, please check out our Web site at www.marshalltown.com. For questions about any of the programs or to participate please contact Kellie Shollenbarger, Marketing Representative, at 800-987-6935 x 190 or kellis@marshalltown.com.
Opinion and Comment

Dear Editor,

I have given some thought to the current trend at SCA Annual Meetings to limit presentations to 15 minutes in length. The more symposia I attend with this format, the more I become convinced we need to rethink this limitation. Fifteen minutes seems to be too short to adequately present one’s research results; the short period leaves me grasping for more data. In addition, this shortened paper format leaves no time for questions to the presenter or discussion on a specific topic. Therefore, I strongly recommend that SCA Program Chairs and Symposium organizers move back to a 20-minute format, or, even a 30-minute format (for topics of a substantive or complex nature). I further recommend that symposia chairs encourage questions from the audience and discussion. An organizer could leave time for discussion right before a break and right before the end of a symposium, for example.

I also wish to remind my colleagues that an abstract should represent a summary of the main points to be discussed in a presentation. Such an abstract is structurally correct and much more informative. I also hope that the 2005 Program Chairs relax their 100-word abstract limit; abstracts of this length may tend to be a bit light in substance. How about up to a maximum of 150 words?

Michael Sampson

From the President (continued from page 3)

Kelly McGuire and Bill Hildebrandt (Program). They have scored world-class Quaternary scientist Scott Stine for Thursday evening’s public lecture on global climatic changes; a nearby, magnificent historical building for the Silent Auction on Friday evening; and Paul Koch, international scholar on Pleistocene extinctions, as keynote speaker for Saturday night’s Banquet. These are just some of the teasers to encourage your participation and attendance April 21 - 24, at the Downtown Hyatt, Sacramento.

As you reflect on the past year and sketch out your activities for 2005, please consider whether you are able to add your energy to one of our programs, or if you would like to help us succeed with a new program. We would welcome you with open arms.

Finally, for a little housekeeping, the next Executive Board meeting is scheduled for Friday, January 21, at the Far Western offices in Davis. Please contact me or any Board Member if you would like to be on the agenda or attend the meeting. Otherwise, have the happiest of holidays, and I look forward to seeing you in the New Year at the Annual Meetings.

— Amy Gilreath

New Publications

This series offers an annotated bibliography of recently published and some unpublished literature pertinent to current debates and methods in Californian archaeology. Prehistoric and historical archaeology will appear in alternate issues. If you have any news or ideas about how this section can better fit the needs of its audience feel free to email the author: dthomas@netptc.net. Please limit contributions to those that can be easily accessed by all members of the SCA and have appeared within the last five years.

Francaviglia, R.V.

Francaviglia explores the visual legacy of hardrock mining on the western landscape with the intention of outlining types of landscape “signatures” associated with the dramatic land alteration from intensive ore exploration and extraction. Mining operations in the west are often located in areas with light precipitation and scarce vegetation which intensifies the visual impact of mining in the region. The author suggests that mining signatures reflect historical and cultural values about the right to transform the land for ore extraction. The stated purpose of the article is to highlight two types of hardrock mining, underground and surface, to demonstrate mining’s impact on the topography and to classify various features associated with mining.

The author organizes types of mining features into four classes; primary extractive, secondary accretionary, tertiary accretionary, and quaternary accretionary. Primary extractive features are those that have been produced from the removal of sediments and deposits such as pits, stopes, tunnels, and shafts. Mining features classified under secondary accretionary would include mine dumps and overburden piles that result from the physical or structural breakdown of mined material. Tertiary accretionary features are wastes from chemical-concentrating processes such as tailings. Cinder and slag piles—features classified under quaternary accretionary—are those that result from the complete restructuring of materials through heat.

Francaviglia recommends applying a geomorphological model to interpreting mining landscapes and mining features...
as “assemblages of age-specific artifacts tied to specific cultures” (2004:46). He offers a sequential pattern of landscape evolution that can be defined on the landscape and could be used to interpret mining operations and temporal frameworks. The initial phase is Exploration and is usually characterized by a series of initial probings scattered throughout the area of study. These features are often obliterated by the Initiation period when operations expand in scope. This is generally followed by Diversification, Intensification, and finally Cessation phases. Although complicated, considering mining-related landscape signatures on a larger scale gives contextual meaning to historic industrial systems that may be concealed at a smaller scale.

Faulkner, C.H.

Archaeological signatures associated with dismantling and relocating buildings in historic times are often overlooked confusing the temporal relationship with structure remains and surrounding cultural remains. Faulkner suggests that buildings were relocated on a more regular basis than researchers currently realize. He presents results of excavations conducted at three historical period sites in which the buildings were either moved off site or transported to a new site.

A building can be moved from its construction site in segments or entirely and rebuilt in a new setting, otherwise referred to as lateral cycling. Log buildings were probably more commonly moved based on the relative ease of disassembling and transporting building materials. Structures were built with the intention of moving them at a later time, and in some instances, relocated often. American logging companies, for instance, would construct portable houses that could be moved as railroad construction progressed.

Faulkner points out that little has been written about historically moved buildings, but does mention two types of methods that use basic technologies consistent with the historic period. One method involves raising the structure above the foundation by using large wooden wedges. Sections of the foundation would be removed and logs wedged below the wooden sill which then functioned as skids for a wooden sled to transport. Perhaps the simplest method, though, would be positioning logs under the building to act as rollers.

A particular suite of artifacts and/or features could provide evidence for a moved structure. The use of a sled to remove the building, for instance, would necessitate the removal of the foundation, either in part or in total. Gaps in foundations, displaced foundations, and trenches could indicate that a building had been moved from the site. A discontinuity between the age of a standing building and surrounding artifacts could suggest that the structure had been relocated to its current site. Additionally, a moved building site might have a larger than usual proportion of nails (i.e., bent and pulled nails) compared to the construction location. A destination site, in converse, would have a lower proportion of unmodified nails to bent nails. Faulkner maintains that, “Establishing the existence of a moved building adds a new dimension to our study of the human impact on the natural and cultural environment, and has considerable implications for interpretation of house lot activities” (2004:65).

Williams, J.S.

San Diego Presidio was the first of four military colonies created in the province of Alta California. Popular views of the Presidio depict a fortified community of mostly Spanish soldiers. A comprehensive evaluation of the archaeology conducted there throughout the last 50 years has outlined a different type of community arrangement over time. In 1992, the San Diego Presidio Archaeology Project was organized to address information potential is those areas of the site that were threatened or destroyed by erosion. Williams presents preliminary findings of the last 12 years of research and evaluation at the Presidio with an emphasis on population structure, settlement arrangement, and artifact assemblage.

Based principally on government reports and correspondence, it appears that civilian colonists are highly represented at San Diego Presidio. Additionally, archaeological research at the chapel and adjacent cemetery provides strong evidence that civilians in relatively strong numbers inhabited the Presidio. Although the idea of a strong Spanish, or European presence is common, William asserts that there is little evidence to support this ethnic assumption. Instead, most of the civilian immigrants and soldiers represent a high percentage of racially mixed inhabitants.

Similarly, popular interpretations of the San Diego Presidio stress the importance of a fortified settlement with defense facilities and military equipment. Years of archaeological research has provided significant information about the organizational arrangement of the Presidio. Computer software designed to facilitate architectural planning allowed the researchers to create a comprehensive overview of the spatial arrangement of buildings and structures through time illustrating distinct stages of development and change.

The artifacts recovered from various studies conducted at the presidio also point to a more diverse situation than previously considered. Along with European and Spanish items, artifacts attributed to Native Americans are represented, with most of the items associated with Mesoamerican groups. Some of the artifacts represent combined technologies and materials that indicate cultural synthesis between European and Native peoples, a reality that has not been previously interpreted at the San Diego Presidio.
In 2001, I discovered what I believe to be Rancholabrean rubbing rocks on California’s North Coast (Parkman 2002a, 2002b, 2002c). These are features that I believe were used for grooming by now-extinct Ice Age megafauna such as Mammutthus columbi and Bison antiquus. The rocks are located on the coast of Sonoma County about 75 km north of San Francisco, within Sonoma Coast State Beach, a unit of the California State Park System. To date, I have located six sites consisting of one or more rubbing rocks, all within an area about 4 km in diameter. The two main sites are referred to as Mammoth Rocks and Jasper Rock.

The Mammoth Rocks site consists of four loci of rubbing rocks, separated by about 300 m (Figure 1). Two of the loci consist of very large blueschist seastacks (20 and 30 m tall). The other two loci are smaller blueschist boulders (4 and 5 m tall). The four loci surround an enigmatic wetland that I believe may represent a relic animal wallow.

Jasper Rock is located 3 km south of Mammoth Rocks. The site consists of a single jasper (red chert) boulder which stands about 2.5 m tall. A shellmidden (CA-SON-365/H) is located 100 m south of the boulder.

Over the past two years, I have developed what I term, “The Rancholabrean Hypothesis.” Simply put, the hypothesis proposes that elements of the Rancholabrean landscape (e.g., megamamal rubbing rocks and wallows) still survive and can be detected on the contemporary landscape. Furthermore, by identifying these Pleistocene features, it may be possible to map the archaeological presence of the area’s first people. Since the initial discovery of the Sonoma Coast rubbing rocks, a loose-knit team of researchers (including archaeologists, geologists, paleontologists, geomorphologists, pedologists, physicists, chemists, zoologists, botanists, and molecular biologists) have been working with me to confirm or deny the Rancholabrean Hypothesis. The following is an update on some of the progress that we have made to date as well as our plans for future research.

Archaeological Investigations at Jasper Rock

Since 2003, archaeological excavations have been underway at Jasper Rock, a highly-polished jasper outcrop with evidence of past quarrying. The spring and fall 2003, and spring 2004 archaeological field classes from Santa Rosa Junior College, under the direction of Thomas Origer, and a summer 2003 volunteer crew under my direction, have to date excavated approximately 30 cubic m of the site. In spring 2003, six 1x1 m units were excavated near the jasper outcrop. During the summer and fall of 2003, one of the units was expanded into a 4x4 m block exposure (Figure 2). The spring 2004 crew worked on the 4x4 m exposure, and also excavated three 1x1 m units at CA-SON-365/H, a shellmidden located 100 m south of the jasper outcrop. The surface of the shellmidden had revealed debitage of a material similar to the outcrop. Thus, we chose to excavate the shellmidden in order to determine its connection, if any, with Jasper Rock.

By the end of fall 2003, a single 1x1 m unit located within the larger 4x4 m exposure at Jasper Rock had been excavated to a depth of 280 cm. Additionally, an auger test within the deep unit had been excavated to a depth of 403 cm. As we excavated down, we discovered that the rock outcrop is polished to a depth of 2 m below the current ground surface.
The excavations also revealed that the site served as a quarry for stone tool material, and that it was probably utilized at multiple times in prehistory. The topsoil (a dark brown Rohnerville Loam from 0-90 cm) contains numerous hammerstones, chert and obsidian debitage, and several obsidian projectile points (Figure 3A, B). The projectile points and obsidian hydration indicate a date of about 500 CAL YBP for the upper component (0-90 cm).

An additional component (or perhaps components) exists from about 100-180 cm, a zone characterized by compacted yellow loam subsoil. Hammerstones and debitage also occur here, as do much larger (25-100 kg) detached blocks of the jasper outcrop (Figure 2). The large blocks appear to have been dislodged from the overhanging outcrop, perhaps to facilitate quarrying activities. I suspect that some of these blocks were removed from the parent outcrop by way of prying. Several backed bladelets of chert (Figure 3C, D, I) and one of obsidian (Figure 3H) came from this component as did an end scraper with apparent blade scars on its dorsal surface (Figure 3C) and several small thumbnail scrapers.

The bladelets resemble those recovered from the lower two components of the Duncans Landing Rockshelter (CA-SON-348/H), an important archaeological site located 1.4 km south of Jasper Rock (Schwaderer 1992). The Duncans Landing Rockshelter contains at least five cultural components, the next to the lowest (Component 2) dating to 9,000 CAL YBP (Component 1 has yet to be dated). It is possible (but certainly not proven) that the cultural component (or components) found between 100-180 cm at Jasper Rock is contemporaneous with the early Holocene occupations at nearby Duncans Landing Rockshelter.

At Jasper Rock, additional cultural components may exist from 180-350 cm. The single deep excavation unit revealed quarry debris to 220 cm, and several possible hammerstone spalls were found at 200-220 cm. The auger test made in the same unit recovered what may prove to be small pieces of quarry shatter to 340-350 cm. Additionally, two small blade-like flakes of quartz were found at 200-210 and 310-320 cm, but will likely prove to be percussive shatter or perhaps even geofacts (Figure 3E, F). Because the deep unit was sited directly beneath a heavily-polished knob of the outcrop, care must be taken to segregate possible geofacts and zoofacts from artifacts. To this end, Glen Halverson, one of Tom Origer’s students and my volunteer, created a mechanical...
trampling experiment to replicate the effects of megamamal trampling on local chert cobbles. The results of that experiment are currently being analyzed. However, some of the mechanically-produced “zoofacts” appear to closely resemble cultural debitage. Similar findings were made at the Big Eddy site in Missouri, where lithics thought to be pre-Clovis in origin, are now thought to be zoofacts (Lopinot et al. 2000). At Jasper Rock, however, we appear to have cultural material to a depth of at least 220 cm.

The excavation at CA-SON-365/H has been limited to date. Three 1x1m units were excavated to depths of 70 cm. Two of the units reached what appears to be culturally sterile subsoil. The third unit was abandoned prior to reaching sterile soil due to the concerns of the Native American monitor that we were possibly approaching a human burial. Several obsidian projectile points were recovered in the three units, as were several spire-lipped Olivella shells (probably beads), a single clamshell disk bead, several fragments of polished bone tools, a large quantity of chert and obsidian debitage, lots of fire-affected rock, and a large variety of shellfish refuse and faunal remains. Some of the debitage resembles the jasper found at the quarried outcrop nearby. Preliminary analysis of the CA-SON-365/H assemblage suggests that it correlates with the upper component at the Jasper Rock site, and thus dates to approximately 500 CAL YBP. However, a large, chert, shallow base concave projectile point was collected from the surface of CA-SON-365/H in 2003, and may indicate the presence of an earlier Archaic component (White et al. 1982).

When I initiated the excavation at Jasper Rock with Tom Origer’s assistance in 2003, I fully expected the investigation to be one primarily paleontological in nature. I did not expect the project to take on such an enormous archaeological element as it has done. Now, instead of searching solely for broken mammoth tusks, footprints, and ancient DNA, we are dealing with boxes of quarried rock and what may be a considerably old archaeological site.

On the East Coast, Dr. Albert Goodyear has shown that if you want to find one of the oldest sites in your area, find a good quarried chert outcrop, and dig to the bottom of the deposit. That is what he has done at the apparently pre-Clovis Topper site (38AL23) on the Savannah River near Allendale, South Carolina (Chandler 2001). Goodyear’s strategy may hold true for the West Coast as well. Time will tell.

Paleoenvironmental Reconstruction of the San Francisco Bay Area

If the Coastal Migration Model (Dixon 1999; Fladmark 1979) has merit, as California’s linguistic diversity and recent archaeological discoveries on the state’s South and Central Coasts (e.g., Johnson and Morris 2002; Jones et al. 2002; Rick et al. 2001) suggest, the Sonoma Coast should have offered abundant resources for early Paleoindians in the late Pleistocene. At that time, the Mammoth Rocks and Jasper Rock sites sat at the back of a broad coastal plain, most of which is now inundated. The plain was likely endowed with a rich growth of perennial grasses resulting from the complex grazing-browsing-trampling regime of the Rancholabrean megafauna (Edwards 1991:4). The coastal prairie comprised the northern part of what I term the Farallon Plains (Parkman 2003b). It extended from the mouth of the California River (Howard 1979:74) west of the Golden Gate to a point north of the Russian River’s mouth. Ranging from approximately 20-48 km in width, the prairie may have surpassed 300,000 ha in size. Further inland, an approximately 200,000-ha grassland (or grassland savanna) extended from the California River north to Cloverdale, including the Petaluma and Sonoma Valleys and the Santa Rosa Plain.
A similar coastal and interior pasture system likely existed south of the California River as well. A grassland (or grassland savanna) of approximately 300,000 ha probably existed beneath the current San Francisco Bay and southward to San Juan Bautista. To the west, an approximately 400,000-ha prairie extended from the mouth of the California River south to the San Benito River. “F Franciscan Valley” is what Daniel Axelrod (1983:848) has termed the trough that is now inundated by San Francisco Bay. For the purposes of my discussion, I use the term “F Franciscan Valley” to designate the area extending from Cloverdale south to San Juan Bautista. Likewise, my “F arallon Plain” extends from a point north of the Russian River’s mouth south to the San Benito River. T hus, the F Franciscan Valley of the late Pleistocene measured approximately 500,000 ha while the F arallon Plain was at least 700,000 ha is size. At 1.2 million ha, the combined F arallon Plain–F raciscan Valley ecosystem was approximately 1/8 the size of today’s Serengeti-M ara ecosistem in East Africa.

A number of obvious east-west corridors linked these interior and coastal “pastures,” allowing for the easy anastrophic migration movements of herds of megaherbivores (cf. J efferson 1988; J efferson and G oldin 1989). T he M ammoth Rocks site sits adjacent to one such corridor, the lower Russian River Valley. Another corridor was probably the area comprised of the Estero Americano, Estero San Antonio, San Antonio Creek, A merican Creek, and S temple Creek drainage systems linking N ovato and Petaluma with Bodega Bay. F urther south, another corridor most likely followed the C rystal Springs Reservoir (San A ndreas F aunt) linking P alo A lto with S an F rancisco’s L ake M erced area.

N aturally, the most obvious corridor connecting the F raciscan Valley with the F arallon Plain followed the south side of the California River through the Golden Gate. D uring the late Pleistocene, this corridor passed through what I term the “A lcataz T riangle,” an area located just inside the Golden Gate and bounded by the Golden Gate, A ngel I sland, and A lcataz I sland. O ne area of interest within the T riangle is revealed by bathymetric data. N ear the T riangle’s center are found three rock pinnacles known as H arding, S hag, and A rch R ocks. A ll three are currently hidden beneath the waters of S an F rancisco B ay. H owever, during the late Pleistocene, all three rocks were exposed. H arding R ock, the largest of the three, stood over 100 m in height. T his trio of rocks commanded an area where the trail corridor narrowed down as it approached the Golden Gate. Such an area would have provided ideal cover for Ice Age predators (especially S milodon caifornicus, P anther a leo, and A rctous simus) intent on ambushing passing prey animals. T he use of this north-south corridor by the megafauna would have allowed for easier movement and quicker access to choice locations on the prairie. T he D uncan’s L anding R ockshelter (CA-SON-348/H ) sat near this same hypothetical north-south trail during the late Pleistocene.

T he J asper R ock site, like M ammoth Rocks, is situated at the interior edge of the late Pleistocene coastal prairie. T heir location at the back of the prairie, and along the ecotone separating the prairie and coastal range, almost guarantees that both rubbing rock sites were on a major trail corridor that led north and south along the interior edge of the coastal plain. T he area between Mammoth Rocks and the D uncan’s L anding R ockshelter was obviously the scene of concentrated megafaunal activity. A s such, the area offered a variety of resources to the early settlers. F or one thing, the area would have presented rich hunting possibilities. T he prospects of scavenging other predators’ kills may have been an equally or more important reason for visiting the area. G iven the concentration of animals, the area offered such seldom-considered resources as bison dung which may have been used to fuel campfires and cooking hearths. T he area’s proximity to forested hillsides made it an attractive area to forage for forest-edge resources as well.

One of the often voiced concerns with the Coastal M igration T heory, and with the Paleoindian occupation of the late Pleistocene coastline, is that the archaeological sites associated with such use were inundated by the rising ocean at the close of the last I ce Age, and thus little can be found of them. I believe that is only partly true. I f Paleoindians populated the S onoma C oast, it seems likely that they would have made great use of the interior edge of the coastal plain. T he area between Mammoth Rocks and the D uncan’s L anding R ockshelter was obviously the scene of concentrated megafaunal activity. A s such, the area offered a variety of resources to the early settlers. F or one thing, the area would have presented rich hunting possibilities. T he prospects of scavenging other predators’ kills may have been an equally or more important reason for visiting the area. G iven the concentration of animals, the area offered such seldom-considered resources as bison dung which may have been used to fuel campfires and cooking hearths. T he area’s proximity to forested hillsides made it an attractive area to forage for forest-edge resources as well.

T o date, I have located at least three archaeological sites along the survey transect where artifacts eroding from the coastal bluffs (from the subsoil at depths of 50-150 cm) appear to suggest a considerable antiquity (>middle H olocene?). I ncluded among the artifacts are a few blade-like flakes with...
edge wear (Figure 3J, K), thumbnail scrapers (Figure 3L), and scraping tools manufactured from what appear to be exotic cherts and chalcedonies (SEM analysis suggests that one scraper was used to work hides or leather) (Figure 3M, N, O), and an apparent burin spall from what may prove to be a locally-exotic obsidian (Figure 3P). While none of the sites may actually prove to be associated with the earliest coastal occupations, they do suggest that the coastal prairie/coastal range ecotone was utilized extensively in the past. Equally important, the sites illustrate the buried nature of the local archaeological record, leaving us to wonder what Paleoindian evidence might eventually be discovered there.

A Clovis-style fluted point was recovered at the interior edge of the coastal plain on the Mendocino Coast near Caspar (Simons et al. 1985). A second Clovis-style fluted point was found in a similar context on the Santa Barbara Coast (Erlandson et al. 1987). Closer to home, several chipped stone crescents, thought to be associated with fluted points, have been recovered from this same ecotone on the Sonoma Coast (from sites at Bodega Head, Stillwater Cove, and Salt Point). Although scant evidence, these artifacts suggest that Paleoindians utilized the interior edge of the coastal plain. Because today’s narrow coastal terrace is all that remains of the broader coastal plain of the late Pleistocene, it is one of the best places to search for Paleoindian evidence.

Jasper Rock, given its highly-polished, bright red color, has been observed to reflect the light of the setting sun, much as the glass windows of buildings do today. Prior to the intensive quarrying that we now know removed most of the rock’s polished surfaces, the outcrop would have lit up like a large beacon on clear days at sunset. This undoubtedly attracted attention, and should have brought the area’s earliest settlers to the site to investigate, regardless of whether they were hunters and gatherers moving west from the Great Basin, or maritime pioneers heading south along the coast. Once there, they would have discovered the jasper outcrop, a good source for stone tool material. They would have also found the Duncans Landing Rockshelter located nearby.14

Microscopic Analysis of the Rubbing Rocks

During summer 2003, I worked with a team of researchers at Sonoma State University to analyze samples of the polished rock using both a Scanning Electron Microscope (SEM) and an Atomic Force Microscope (AFM). Dr. Stephen Norwick of the Dept. of Environmental Studies and Planning, Dr. Rolfe Erickson of the Dept. of Geology, and Tim McKernan, a student in the Dept. of Physics, participated in this research. The results of our investigation suggest that the polished rocks at both Mammoth Rocks and Jasper Rock were indeed created by Rancholabrean megafauna (Parkman et al. n.d.). The AFM mapping of the polish topography revealed traits not found in naturally-polished specimens (i.e., those created by the actions of wind, water, and faulting). The SEM analysis identified striking similarities with historic elephant rubbing posts such as grit-induced scratches (Figure 4).

In 2002-2003, I investigated the prospects for recovering ancient DNA from microfissures within the polished rock. I found a team of molecular biologists to initiate the required in-depth research, but they were unable to follow through with the project. Unfortunately, to date no other work has been attempted in this regard. However, the DNA team did determine that the polished rock surfaces contain microfissures, some of which have been sealed. I feel less certain now that DNA was preserved in the sealed fissures, but this still warrants further attention.

Microblade Technologies in the North Coast Ranges

Until recently, the microblades from the Duncans Landing Rockshelter appeared to represent an anomalous situation in the local archaeological record. Finding additional bladelets at Jasper Rock suggests the presence of a microblade technology. I have since detected microblades elsewhere in the local North Coast Ranges. However, much more work is necessary to confirm or deny my observations. If a microblade technology does exist in the area, it has been all but overlooked by archaeologists. That said, there are a number of archaeologists who have noted finding isolated blade-like flakes, microblades, and microblade cores without going so far as to propose a local microblade tradition (e.g.,

![Figure 4: Comparison of the Polished Surface of an Elephant Rubbing Post to Polished Rock Surfaces at the Mammoth Rocks Site. Micrographs by Tim McKernan, 2003.](image-url)
Actually, there appear to be two separate microblade technologies occurring in the Northern Coast Ranges. The first is found in the early Holocene as evidenced at the Duncans Landing Rock shelter and perhaps Jasper Rock, depending on that site's as yet unknown chronology. These are backed bladelets of obsidian and chert with edge wear suggesting scraping and cutting actions. They do not appear to have been made for fitting into slots in bone tools.

The second technology occurs in the middle-late Holocene as seen at sites in the Napa Valley and Clear Lake Basin. These microblades are primarily obsidian backed bladelets, perhaps found largely at sites proximal to the major obsidian sources at Napa Glass Mountain and Borax Lake. CA-NAP-58, located just south of Calistoga in the northern Napa Valley, is my primary site for investigating this proposed technology (Figure 3Q, R, S).

Other sites occur upstream on Ritchey Creek in Botche Napa Valley State Park and on or near Cache Creek in Anderson M arsh State Historic Park. Obsidian backed bladelets have also been reported from CA-NAP-1, the "Goddard" site (E ezer 1953:264, 341).

Additionally, a private artifact collection (known as the John Walters Memorial Collection) now in California State Parks ownership contains a number of obsidian blades (>50 mm long) and microblades (<50 mm long) ranging from about 30-100 mm in length (Figure 3T) (Parkman 2003c). The objects were collected from a currently inundated shoreline site ("Lakeside Park") on Clear Lake during the 1977 drought. In addition to the blades, other, as yet unexamined, lithic materials were collected from this same site. The site is located just 4 km from the well known Borax Lake site (C A-LAK-36), at which were found Clovis-like fluted points and chipped crescents (arrington 1948; M eighan and H aynes 1970). These Clear Lake oblate blades could conceivably be Paleoindian in origin as such blades are characteristic of the Clovis Culture (Collins 1999). However, they are more likely associated with the proposed middle-late Holocene technology. More work is necessary in order to confirm their origin, as well as the existence of the two proposed H olocene-era microblade industries.

To the south, a late Holocene microblade industry was present in southern California, and is much better understood there (cf. D ieter 2003; H eizer and K elley 1962; O 'Neil 1984; Pitzer et al. 1974; S wartz 1959, 1960). Among the Chumash of the Channel Islands, microblades were made for use as drills for shell beads (D ieter 2003).

Further north, on the Northwest Coast and in Alaska, the microblade-making cultures of the much earlier (ca. 10,500-8,500 CAL YBP) American Paleoarctic Tradition (APT) date to the Paleolocene/Holocene transition (Dixon 1999:165-192). The Northwest Coast microblade tradition (ca. >9,000-8,500 CALYBP), a regional variant of the APT, extended as far south as Oregon (Ibid:178). It is conceivable but unlikely that Components 1 and 2 at the Duncans Landing Rock shelter, and perhaps all or part of the 100-180cm level at Jasper Rock, are associated with this northern microblade tradition.

New Rubbing Rock Sites Found Elsewhere

Other rubbing rock occurrences have been identified elsewhere in Northern America. In the Southwest, L eroy U nglaub and E kkehart M olak have documented rubbing rocks at Cormudas M ountain, Alamo M ountain, Providence Cone, and A kela F lat in N ew M exico (see F orton C over, this issue). They have also found them at H ueno T anks in T exas. The H ueno T anks and Cormudas M ountain sites were first proposed as rubbing rock occurrences in the 1940s (L ang 1941, 1947). K irk Peterson and B ruce M iller discovered two rubbing rock sites on the former shoreline of L ake A hontan in northwestern N evada (Peterson 2002). In M innesota, K evin C allahan has recorded an ancient buffalo rubbing rock at the famous J effers Petroglyph site. Other buffalo rubbing rocks are known throughout the Great Plains. In Wisconsin, D r. S tephen D utch (D ep. of G eology, U niversity of W isconsin, G reen B ay) has identified a likely rubbing rock at Rock Springs near the Baraboo R iver. In 2003, D r. D utch visited the Sonoma Coast sites so as to better evaluate the site at Rock Springs.

Other notable visitors to the Sonoma Coast sites in the past year or two include D r. G ary H aynes of the U niversity of N evada, R eno, and D r. T im F lannery, D irector of the S outhern A ustralian M useum. D r. H aynes and F lannery are both accomplished scholars of the Pleistocene (e.g., F lannery 1994, 2001; H aynes 1991, 2002). Additionally, D r. C hristopher C hippendale of C ambridge U niversity visited the M ammoth Rocks site as did a large tour group from the 2003 I nternational Q uaternary A ssociation (I N Q UA) c onference in R eno, led by D r. C arol P rentice of the U.S. Geological S urvey.

Closer to home, G ary Shannon of California State Parks discovered a rubbing rock in the coastal range overlooking the M ammoth Rocks site. The new site is located on the side of Red Hill at an elevation of 207 m. The site consists of a blueschist boulder about 2.5 m in height. It occupies a bench that may possibly (albeit unlikely) correlate to Quaternary M arine T errace 1 (Q MT 1). Q MT 1 (estimated to be about 516,000 CAL YBP) has not been mapped in this area, but is known further south near Bodega B ay. In that area, it is found significantly lower at approximately 79 m elevation. The difference in elevation could conceivably be a matter of accelerated uplift as one moves north. For example, on the southern M endocino C oast, the oldest uplifted terraces are located at about 300 m and date to 420,000 C AL YBP (P rentice 1989:133). Q MT 2 (73 m elevation and 472,000 C ALYBP) and Q MT 3 (61 m and 320,000 C ALYBP) have also been mapped in the Bodega B ay area. Q MT 4 (52 m elevation and 320,000 C ALYBP) is visible cut into the hillside just above M ammoth Rocks. M ammoth Rocks and Jasper Rock, at approximately 40 m elevation, are both on Q MT 5 which is thought to correlate with the 5e (125,000 C ALYBP) sea level high stand (H itchcock and K elson
The Red Hill site is interesting because of its higher elevation and association with what may be a much older uplifted terrace. The polished surface of the Red Hill boulder measures about 1 m square and is almost completely covered with lichen. Lichens have been slow to colonize the polished surfaces of the lower rubbing rocks at Mammoth Rocks and Jasper Rock. The fact that the polished surface at Red Hill is almost completely obliterated from view by lichen growth suggests that the rubbing rock has gone unused for a much greater period of time than have the rocks further below on QMT 5.

Current Research

During summer 2004, I am again working with a volunteer crew in the 4x4 m exposure at Jasper Rock. The exposure is being expanded in order to make it safe enough to continue the deeper excavation. Tom Origer’s fall 2004 field class will return to the site, and by the end of this year, we hope to have a better idea of what is to be found in the deeper depths of the site. However, given the difficulty and depth of the excavation, we may not have many answers until next year.

Also in summer 2004, Jack Meyer of Sonoma State University excavated a column sample from the 4x4 m exposure at Jasper Rock. The excavated sample will be subjected to flotation analysis. As part of this same project, we hope to obtain a radiocarbon date from soil in the lower cultural component (i.e., from the lowest layer of the site that we know to be cultural).

Meyer will also conduct flotation analysis of a column sample I excavated at Mammoth Rocks in fall 2002. At Mammoth Rocks, I excavated a single 1x1 m control unit adjacent to a heavily-polished rock face. In my excavation, I encountered a 0-48 cm dark brown topsoil (Rohnerville Loam) overlying a compacted yellow loam subsoil. I recovered several chert flakes in the 0-20 cm levels, and quite a few more in the 45-70 cm levels. The chert flakes in the subsoil appear to have come from CA-SON-1713, a green chert source (with evidence of quarrying) located about 250 m north of Mammoth Rocks. The chert flakes found in the topsoil were brown and gray in color, and came from elsewhere in the area.

Drs. Marvin Rowe and Karen Steelman of the Department of Chemistry, Texas A&M University, have agreed to use their plasma-chemical extraction (PCE) method in an attempt to date samples of the polishing rocks by direct AMS radiocarbon measurement (Rowe 2001; Rowe and Steelman 2002). They have had great success in the past at extracting and dating organic carbon from pictographs using the PCE method, and may be able to apply it to the polished rock samples with the same results. They will work with samples from both Jasper Rock and Mammoth Rocks.

Vernal Pools as Rancholabrean Wallows

Included among California’s most precious natural resources are the state’s vernal pools, seasonally flooded depressions found on ancient Ice Age soils with an impermeable layer such as a hardpan or claypan. The origin of the pools has always been a bit of a mystery, and there are several theories that have been offered to explain them.

During earlier times, these features in the Central Valley were often referred to perhaps derisively as “hog wallows” just as similar features were referred to as “buffalo wallows” on the Great Plains (Anonymous 1998:15). I have recently added a new theory to the mix. In 2003, I hypothesized an association between vernal pools and ancient Rancholabrean wallows (Parkman 2003b). My reasoning began with an observation at Mammoth Rocks in 2001. The site contains an unusual wetland depression which measures about 0.5 ha in size. This depression is encircled by four loci of polished rocks. As unlikely as it may seem, I believe the depression may be a relic wallow left over from the late Pleistocene. If this is the case, then its presence helps explain the rubbing rocks that encircle it.

Contemporary rubbing rocks are typically associated with the bathing and grooming behavior of megafauna. For example, African elephants wallow at waterholes in order to coat themselves in mud, then, as the mud dries, they rub it off against a hard object, often a large boulder. This helps remove extoparasites from the animal’s skin. Bison often use dry wallows for a similar purpose.

I suspect that Ice Age mammoth and bison had similar practices to their modern-day counterparts. If so, then it seems probable that some of California’s vernal pools began as animal wallows. In the case of those that did not, it seems likely that they served as useful waterholes in late spring and early summer, and would have thus been affected by the very presence of the megafauna (e.g., African elephants are known to enlarge and “improve” waterholes).

California’s vernal pools are typically associated with late Pleistocene soils and landforms (Anonymous 1998:18; Holland 2000:31-32; Stone 1990:91). While some of the Pleistocene pools have undoubtedly filled in over time, it is likely that many of these depressions have survived through the ages. The use of the vernal pools by megafauna during the late Pleistocene would have maintained many of the pools’ depressions until the time of the megafauna’s extinction, perhaps as late as 10,000 CAL YBP. The repeated use of the wallows by the megafauna would have prevented the California flora from colonizing the depressions for any length of time. However, upon the demise of the megafauna, and for the past ten millennia, the plants would have been free to move in and colonize the abandoned wallows. It is likely that plant adaptations and ecological dynamics mitigated against the infilling of many of the pools. Thus, if my hypothesis is accurate, many of California’s vernal pools were born of abandoned wallows at the dawn of the Holocene. I am currently exploring how best to investigate this aspect of the Rancholabrean Hypothesis.
**Conclusions**

The discovery of the Sonoma Coast rubbing rocks has inspired a multidisciplinary effort to better illuminate the natural and cultural histories that characterized the San Francisco Bay area at the end of the last Ice Age. In order to truly understand the rubbing rocks, it is first necessary to fit them into the Pleistocene landscape. That means reconstructing major game trails, calculating optimal carrying capacities, estimating numeric predator-prey relationships, and integrating interrelated plant and animal communities, among other things. By creating this paleoenvironmental model, the rubbing rocks become features of an integrated landscape rather than anomalous stand-alone sites.

To date, the scientific testing of the model has been one of divergence. In the lab, SEM and AFM analyses have resulted in evidence that appears to validate the rubbing rock interpretation. It remains to be seen whether future lab analyses, such as the AMS radiocarbon dating of the rock polish, the flotation of soil samples, or some future probing for ancient DNA will bring additional positive results.

However, contrary to the positive results derived from the lab analyses, the field investigations have diverged from the original course. To date, the excavations at Amoam Rock, and Jasper Rock have revealed little if any tangible subsurface evidence of the Rancholabrean megafauna's presence; they have instead revealed evidence of a human presence that may have considerable antiquity. While we continue to pursue mammoth and bison in the lab, we are chasing microblades and hammerstones in the field. If we are lucky, the megafauna and artifacts will come together in the lower levels of the Jasper Rock excavation. At least, that is what the model suggests may happen. And if this does not happen at Jasper Rock, perhaps it will at Amoam Rocks.

The Scientific Method requires that a working hypothesis be rigorously tested, and done in such a way that any and all results can be quantified and replicated. However, the Scientific Method does not require that the hypothesis be confirmed. If a test is structured properly, science advances regardless of whether the hypothesis is confirmed or denied. Either way, things are learned in the process. Too many scientists, including many of the archaeologists I know, remain quiet rather than risk being proven wrong. In the end, that attitude limits our scientific knowledge.

The model that I am constructing to accompany the Rancholabrean Hypothesis may eventually be denied. But regardless, I believe that something useful will be learned in the process. On the other hand, should the model be confirmed, we may have another tool for helping locate the evidence left behind by the area's first pioneers. I believe that is worth the risk of being proven wrong.

**Acknowledgements**

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Endnotes

1. Raj Naidu accompanied me in the discovery of the Mammoth Rocks site on September 12, 2001. Brendan O'Neil, an Associate Resource Ecologist with California State Parks, led me to the Jasper Rock site several weeks later.

2. Although the alternative explanations offered to explain the polished rocks have been all but ruled out, my “rubbing rock” interpretation still remains a working hypothesis and should not be considered a proven fact.

3. It is possible albeit unlikely that some of these blocks were felled by natural processes such as seismic events.

4. During the 1989 excavation at the Duncans Landing Rockshelter, I saw what I believed to be a scat evidence of a possible cultural component below Component 1. Unfortunately, recovery conditions were very difficult given the great depth and small size of the unit, and the fact that we encountered the suspect component at the close of the project. A small sample of soil was recovered from beneath Component 1, wet-washed using very fine mesh screen, and the screenings analyzed under a microscope by Rae Schwaderer, Thomas Wake, and me. No cultural evidence of any kind was recovered in this manner. However, in spite of this absence, I still believe that there is at least one unidentified cultural component lying below Component 1. The hypothetical component, if real, is almost certainly Paleoindian in origin. Actually, it would be surprising if the earliest inhabitants of the Sonoma Coast did not make use of this rockshelter, given its exceptional size and strategic location.

5 The deep excavation unit is sited immediately adjacent to the quarried boulder and in an area where large blocks of the outcrop were knocked or pried off (see Fig. 2). Most of the quarry debris found here is comprised of various-sized pieces of rough percussive shatter, rather than the debitage resulting from stone tool making activities. However, more flakes were recovered in the excavation units sited further away from this area.

6. At the time of the last glacial maximum (ca. 19,000-15,000 CALYRBP), sea level was about 120 m lower than today, thus the exposed coastal plain extended all the way to or near the edge of the continental shelf, and included the Farallon Islands. At that time, Lighthouse Peak on South Farallon Island stood 241 m above the coastal plain, and the Cordell Bank was itself a considerable
promontory as well. The edge of the continental shelf, known as the “Farallon Escarpment,” is found at a depth of 100-150 m in the San Francisco Bay area (Chin and Graymer 2001:27). In recent studies of the sea floor of the shelf, areas of relict sediment (deposits of mostly sand and gravel left on the shelf when it was exposed during times of lower sea level) have been mapped (Karl 2001:90). These old deposits may hold the key to the location of submerged Paleoindian sites.

7. If you factor in California’s Central Valley, which I have not done in this study, the ecosystem becomes even larger than the Serengeti-Mara system. It is likely that some bison herds and others moved from the Central Valley west through the Carquinez Strait and the Golden Gate to the coastal plain and back.

8. Evapotranspiration rates should have varied significantly enough between the coast and interior to make the coastal prairie attractive to the local megafauna in summer months. The animals would have also visited the coast for salt and other essential minerals.

9. The rocks are located at approximately 37° 50’ N, 122° 27’ W. 10 Because these three pinnacles were perceived to be potential navigational hazards, the United State Geological Survey developed plans to remove the upper portions of each rock and place the debris in nearby bayfloor depressions (Chin et al. 1998).

11. Using comparative data from the Serengeti Plains of East Africa, the Arctic National Wildlife Refuge in Alaska, and the historic American Great Plains, and assuming a grassland environment for the Franciscan Valley and Farallon Plain, I calculate an optimum Rancholabrean predator-prey relationship for local grassland and grassland-savanna areas at approximately 1/140 (Parkman 2003a). If correct, there would have been one large predator (e.g., sabertooth cat, California lion, dire wolf, American short face bear, etc.) for every 140 megaherbivores (e.g., horse, camel, bison, mastodon, mammoth, etc.). Furthermore, my calculations suggest that in the most optimum conditions, there may have been one megaherbivore per 4 ha. Obviously, these are speculative numbers that cannot be confirmed or denied. However, they do allow a sense of the ecological dynamics of the Rancholabrean landscape.

12. The Mammoth Rocks site likely commanded a similar position on the Rancholabrean landscape. Like the rocks of the Alcatraz Triangle, it would have offered large predators and Paleoindian hunters-scavengers an ideal cover for monitoring and ambushing prey.

13. The preliminary analysis of fossil conifers from Bodega Head indicates that the coastal prairie was bordered by a closed-cone coniferous forest at approximately 50,000 CALYRBP, during the time of the Port Talbot Interglacial. Pinus radiata and P. muricata predominated at that time. The location and composition of the forest at 11,000 CALYRBP are thought to have been similar (Simons et al. 1985:265-266).

14. At 13,000 CALYRBP, the Duncans Landing Rockshelter had a 5-m high opening facing the ocean, and a similar one facing the hills (the rockshelter is derived from an ancient surge channel cut through the rock). Both openings would have been easily visible from a considerable distance.

15. CA-NAP-58 is a large occupation site situated on Ritchey Creek just 4 km from the Napa Glass Mountain obsidian source. To date, all work conducted at CA-NAP-58 has consisted of surface survey. The tremendous amount of obsidian waste material littering the site’s surface suggests that it served as a workshop. The majority of the waste was derived from a core and flake industry. Among the waste are blade-like flakes associated with the initial reduction of raw material, as outer surfaces were “peeled” from the inner core. While resembling blades in the most generic sense (i.e., having parallel sides and a length more than twice that of the width), these flakes are not true blades and are easily distinguished from the true blades (or microblades) also found at the site. As a test, I have sampled collections from CA-SON-29, the Annadel Obsidian Quarry, to verify the distinction between blade-like flakes and true blades in a workshop setting. Also present at CA-NAP-58 are examples of bifaces made on blades or blade-like flakes. What are lacking, however, are blade cores. While a few microblade cores have been found at CA-NAP-58 and at a few sites on Ritchey Creek and in Lake County, their relative paucity makes my proposed microblade technology extremely problematic. Thus, for the time being, my proposals regarding both microblade technologies should be viewed with extreme caution. More work is needed by trained lithic specialists to confirm the presence of such technologies.

16. Heizer (1953:264, 341) identified two types of blade-like tools at CA-NAP-1. Type A1 (n=11) were “long, narrow blade-like obsidian flakes” ranging from 40-80 mm in length, with retouch around the edge or along both long sides. Type B1 (n=6) were “blade-like obsidian flakes with one long side unretouched to form a back.” They ranged from 30-90 mm in length and had retouch along one long side.

17. Not to be confused with the current “Lakeside County Park” near Kelseyville.

18. The backed bladelets from Jasper Rock and Duncans Landing Rockshelter are unlike the typical microblades found on the Northwest Coast. Nor do they resemble the microblades I have seen in the Transbaikal region of Siberia and elsewhere in North Asia. This may be a reflection of the small sample size from the Sonoma Coast (n<10), but more likely these tools represents a different technology and purpose. The Sonoma Coast specimens have relatively low length-width ratios and are characterized by steep edge angles. They may not represent microblades in the truest sense but are perhaps best described as utilized blade-like flakes.

19. In 1993, I saw numerous buffalo rubbing rocks and wallows while assisting Dr. Jack Steinbring of the University of Winnipeg with a multi-province rock art assessment on the Canadian Plains. During that time, I worked with Lawrence Tobacco, a distinguished Northern Cree elder, who was interested in the relationship of the rocks to the former buffalo-hunting cultures of the Plains.

20. An earlier observation came in 1988 as I flew across the Laotian Trail, which the North Vietnamese once used to resupply their war efforts in South Vietnam during what the locals call the “American War.” What was striking about the craters was the fact that they were filled with water, just like California’s vernal pools after the winter rains. Over time, plants and animals have adapted to the craters, and they are now a part of the local ecology. Indeed, local farmers often use them for growing fish. If plants can adapt to bomb craters in Southeast Asia, they should have adapted similarly to abandoned wallows in California. The fact that wetland plants have colonized abandoned bedrock mortars (Holland 2000:28) and tire ruts (Bauder et al. 1997:15) in California’s Central Valley, thus making miniature or linear vernal pools of them, seems proof enough that wallows would have been colonized by such plants in earlier times.
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